REMARKS

In accordance with the foregoing, the specification and claims 1, 19, and 21 have been amended. Claims 1-25 are pending, with claims 1 and 13 being independent. No new matter is presented in this Amendment.

The specification and claims 19 and 21 have been amended to correct grammatical and typographical errors. Claim 1 has been amended to more clearly define the invention.

Request for Indication that References Cited in Information Disclosure Statements Have Been Considered

Copies of an International Search Report mailed on July 13, 2004, in International Application No. PCT/KR2004/000733 and a Written Opinion of the International Searching Authority mailed on July 13, 2004, in International Application No. PCT/KR2004/000733 were submitted with the Information Disclosure Statement of September 30, 2004, and are in the image file wrapper of the present application.

Also, a copy of a Korean Office Action issued on June 24, 2005, in Korean Patent Application No. 2003-61310 (in Korean with complete English translation) was submitted with the Information Disclosure Statement of August 11, 2005, and is in the image file wrapper of the present application.

However, while the three references listed above were previously submitted with the Information Disclosure Statements of September 30, 2004, and August 11, 2005, they were not listed on the Lists of References Cited by Applicant included in those Information Disclosure Statements. Accordingly, attached hereto is a List of References Cited by Applicant listing these three references for the Examiner's convenience in indicating that they have been considered.

Double Patenting Rejections

Claims 1-5 and 13 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-6, and 16 of copending Application No. 10/811,976. This provisional rejection is respectfully traversed.

The Examiner states as follows:

> Although the conflicting claims are not identical, they are not patentably distinct from each other because recording and producing [*sic*] apparatus of copending application is broader and can record the content on the storage medium as recited in the instant application.

However, the Examiner has <u>not</u> identified any basis <u>whatsoever</u> in the statutes, rules, procedures, or case law for his position. The undersigned attorney has recently seen several nonstatutory obviousness-type double patenting rejections based on the "broader" rationale relied on by the Examiner, none of which cite any authority to support the rejections. If this is a new unannounced policy that has been adopted by the U.S. Patent and Trademark Office (PTO), it is respectfully requested that the Examiner <u>provide copies of any internal PTO documents instructing Examiners to make such rejections with the next Office Action</u>.

Furthermore, it is submitted that the Examiner's explanation of the provisional rejection does <u>not</u> comply <u>with the requirements of a nonstatutory obviousness-type double patenting rejection set forth in MPEP 804(II)(B)(1)</u>, which provides as follows in pertinent part on MPEP pages 800-21 and 800-22:

> Since the analysis employed in an obviousness-type double patenting determination parallels the guidelines for a 35 U.S.C. 103(a) rejection, the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are employed when making an obvious-type double patenting analysis. These factual inquiries are summarized as follows:

> (A) Determine the scope and content of a patent claim relative to a claim in the application at issue;

> (B) Determine the differences between the scope and content of the patent claim as determined in (A) and the claim in the application at issue;

> (C) Determine the level of ordinary skill in the pertinent art; and

> (D) Evaluate any objective indicia of nonobviousness.

> The conclusion of obviousness-type double patenting is made in light of these factual determinations. Any obviousness-type double patenting rejection should make clear:

> (A) The differences between the inventions defined by the conflicting claims — a claim in the patent compared to a claim in the application; and

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(B) The reasons why a person of ordinary skill in the art
would conclude that the invention defined in the claim at issue is
anticipated by, or would have been an obvious variation of, the
invention defined in a claim in the patent.

Here, it is submitted that the Examiner has not established a *prima facie* case of
nonstatutory obviousness-type double patenting pursuant to MPEP 804(II)(B)(1) because the
Examiner's explanation of the provisional rejection does not make clear (1) the differences
between the inventions defined by the conflicting claims and (2) the reasons why a person of
ordinary skill in the art would conclude that the invention defined in claims 1-5 and 13 of the
present application is anticipated by, or would have been an obvious variation of, the invention
defined in claims 1, 3-6, and 16 of copending Application No. 10/811,976.

In particular, the Examiner has not provided any explanation whatsoever as to why he
believes that the recording and/or reproducing apparatus recited in claims 1, 3-6, and 16 of
copending Application No. 10/811,976 is "broader" than the information storage medium recited
in claims 1-5 and 13 of the present application, or why he believes that the recording and/or
reproducing apparatus recited in claims 1, 3-6, and 16 of copending Application No. 10/811,976
"can record the content" on the information storage medium recited in claims 1-5 and 13 of the
present application. Rather, the Examiner has merely alleged that this is the case, and therefore
has not met his burden of establishing a *prima facie* case. Furthermore, it is not seen how a
recording and/or reproducing apparatus can reasonably be considered to be "broader" than an
information storage medium as alleged by the Examiner.

Furthermore, as recognized by the Examiner, allegedly conflicting claims 1, 3-6, and 16
of copending Application No. 10/811,976 have not in fact been patented, such that the
provisional nonstatutory obviousness-type double patenting rejection of claims 1-5 and 13 as
being unpatentable over claims 1, 3-6, and 16 of copending Application No. 10/811,976 is
premature.

For at least the foregoing reasons, it is respectfully requested that the provisional
nonstatutory obviousness-type double patenting rejection of claims 1-5 and 13 as being
unpatentable over claims 1, 3-6, and 16 of copending Application No. 10/811,976 be withdrawn.

However, should the Examiner repeat this provisional rejection in the next Office Action, it
is respectfully requested that the Examiner provide an explanation of the provisional rejection

that complies with MPEP 804(II)(B)(1) as set forth above with respect to each of the rejected claims.

Claim Rejections Under 35 USC 101

Claims 1-25 have been rejected under 35 USC 101 as being directed to non-statutory subject matter. This rejection is respectfully traversed.

The Examiner states as follows:

> Claim1, [*sic*] 13 recites an information storage medium comprising data and information used by the apparatus, and it is a nonfunctional descriptive material and it is non-statutory. When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement.
>
> Data structures not claimed as embodied in computer-readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.
>
> Claim2-12 [*sic*] and 14-25 also [*sic*] rejected because of the dependency on rejected calim1 [*sic*] and 3 [*sic*].

However, except for *Warmerdam*, the Examiner has not identified any basis whatsoever in the statutes, rules, procedures, or case law for his position.

MPEP 2106.1 states as follows in pertinent part on MPEP page 2100-17:

> When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency)
>
> . . . .

Here, it is submitted that "ENAV buffer configuration information for use by the [recording and/or reproducing] apparatus in allocating at least a portion of the ENAV buffer in which the ENAV file is to be loaded to be an updateable markup area" recited in independent claim 1 is in fact functional descriptive material as required by MPEP 2106.1 in order to be statutory because it enables the recording and/or reproducing apparatus to allocate at least a portion of the ENAV buffer in which the ENAV file is to be loaded to be an updateable markup area.

Also, it is submitted that the "allocation information used by the [recording and/or reproducing] apparatus to allocate a portion of the buffer to be reserved for an interactive type of the interactive file prior to the interactive file being loaded" recited in independent claim 13 is in fact functional descriptive material as required by MPEP 2106.1 in order to be statutory because it enables the recording and/or reproducing apparatus to allocate a portion of the buffer to be reserved for an interactive type of the interactive file prior to the interactive file being loaded.

Furthermore, it is submitted that the "ENAV buffer configuration information" recited in claim 1 and the "allocation information" information recited in claim 13 are recorded on a computer-readable medium as required by MPEP 2106.1 in order to be statutory because claim 1 recites "[a]n information storage medium for use with a recording and/or reproducing apparatus having an ENAV buffer, the medium comprising: . . . ENAV buffer configuration information," and claim 13 recites "[a]n information storage medium for use with a recording and/or reproducing apparatus in an interactive mode and which includes a buffer, the medium comprising: . . . allocation information," and an information storage medium is one type of a computer-readable medium.

For at least the foregoing reasons, it is submitted that claims 1 and 13 and claims 2-12 and 14-24 depending therefrom are in fact statutory under 35 USC 101 under the guidelines set forth in MPEP 2106.1.

To the extent the rejection may be based in part on the fact that claims 1 and 13 do not recite the exact phrase "computer-readable medium," it is submitted that nothing whatsoever in MPEP 2106.01 requires that a claim reciting functional descriptive material must recite that the functional descriptive material is recorded on a "computer-readable medium" to be statutory under 35 USC 101. Rather, MPEP 2106.01 states that "[w]hen functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases," citing *In re Lowry*, 32 F.3d 1579, USPQ2d 1031 (Fed. Cir. 1994). In *Lowry*, the Court held that a claim that recited "[a] memory for storing data for access by an application program being executed on a data processing system, comprising: a data structure stored in said memory" was statutory under 35 USC 101, and that the "data structure" must be given patentable weight.

MPEP 2106.01 also cites *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), in which the Court held that a claim reciting "[a] machine having a memory which contains data representing a bubble hierarchy generated by the method of any of Claims 1 through 4" was statutory under 35 USC 101. The Examiner relied on *Warmerdam* in his explanation of the rejection.

In *In re Beauregard*, 53 F.3d 1583, 35 USPQ2d 1383 (Fed. Cir. 1995), the Court stated that "[t]he Commissioner [of Patents and Trademarks] now states 'that computer programs embodied in a tangible medium, such as floppy diskettes, are patentable subject matter under 35 U.S.C. § 101 and must be examined under 35 §§ U.S.C. 102 and 103.'"

At issue in *Beauregard* was Application No. 07/521,858, which issued as U.S. Patent No. 5,710,578 on January 20, 1998, and contains claims that recite "[a]n article of manufacture comprising: a computer usable medium having computer readable program code means embodied therein" and similar claims; "[a] computer program product comprising: a computer usable medium having computer readable program code means embodied in said medium" and similar claims; and "[a] program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine."

In *In re Nuijten*, 500 F.3d 1346, 84 USPQ2d 1495 (Fed. Cir. 2007), the Court pointed out that in *Ex parte Nuijten*, 84 USPQ2d 1335 (Bd. Pat. App. & Inter. 1996), the Board of Patent Appeals and Interferences had found that "[t]he storage medium in claim 15 nominally puts the claim into the statutory category of a 'manufacture' " and had reversed the Examiner's rejection of claim 15 under 35 USC 101. Claim 15 recited "[a] <u>storage medium</u> having stored thereon a signal with embedded supplemental data."

For at least the foregoing reasons, it is submitted that a claim reciting functional descriptive material is <u>not</u> required to recite that the functional descriptive material is recorded on a "computer-readable medium" to be statutory under 35 USC 101. It is submitted that the "information storage medium" recited in claims 1 and 13 is but one of many examples of the "<u>some</u> computer-readable medium" referred to in MPEP 2106.01 that include the "memory" in the *Lowry* and *Warmerdam* decisions; the "tangible medium" in the *Beauregard* decision; the "computer usable medium" and the "program storage device" in the Beauregard patent; and the "storage medium" in the *Nuijten* decisions.

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 1-25 under 35 USC 101 as being directed to non-statutory subject matter be <u>withdrawn</u>.

However, should the Examiner repeat the rejection in the next Office Action on the basis of some recent internal PTO guidelines that require claims 1-25 to recite a "computer-readable medium" in order to be statutory (other than the MPEP, which does <u>not</u> support the Examiner's position), it is respectfully requested that the Examiner <u>provide a copy of such guidelines with the next Office Action so the applicants can properly evaluate the Examiner's basis for the rejection</u>.

Claim Rejections Under 35 USC 102

Claims 1-25 have been rejected under 35 USC 102(b) as being anticipated by Chung et al. (Chung) (EP1267352), which shares a common inventor Hyun-kwon Chung with the present application, and is assigned to the same assignee as the present application. This rejection is respectfully traversed.

Claim 1

It is submitted that Chung does not disclose "[a]n information storage medium for use with a recording and/or reproducing apparatus having an ENAV buffer, the medium comprising: . . . ENAV buffer configuration information for use by the apparatus in allocating at least a portion of the ENAV buffer in which the ENAV file is to be loaded to be an updateable markup area" as recited in independent claim 1.

The Examiner considers the "ENAV buffer configuration information" recited in claim 1 to be disclosed in paragraph [0039] of Chung, which reads as follows:

> [0039]   The preload list file lists the names of the files to be preloaded and information about the amount size of memory necessary for storing each file to be preloaded. The files to be preloaded is the markup language document which may need to be reproduced in synchronization with the relevant AV data and is recorded in the DVD 300 according to the embodiment. The files to be preloaded can be stored in the Internet server that can be accessed over the Internet.

However, the Examiner did not explain why he considers this paragraph to disclose the "ENAV buffer configuration information" recited in claim 1, which makes it impossible for the applicants to respond to the rejection without speculating about how the Examiner is interpreting Chung. Accordingly, should the Examiner repeat the rejection of claim 1 in the next Office Action, it is respectfully requested that the Examiner explain why he considers this paragraph to disclose the "ENAV buffer configuration information" and the "updateable markup area" recited in claim 1. Furthermore, should the Examiner provide such an explanation in the next Office Action, it is submitted that this will constitute a new ground of rejection to which the applicants will be entitled to respond by presenting arguments and/or amending claim 1, such that the Examiner will not be able to make the next Office Action final.

Based on a text search of U.S. Patent Application Publication No. 2003/0049017 corresponding to Chung, the terms "ENAV buffer" and "updateable markup area" do not appear in Chung; no words containing the word fragments "allocat" and "updat" appear in Chung; and words containing the word fragment "config" appear only in the sentence "[m]ore detailed configuration information is included in the DVD-Video Standard called as DVD-Video for Read Only Memory Disc 1.0" in paragraph [0049] of Chung, and in the sentence "[t]ext data of the above-described file STARTUP.HTM and STARTUP.PLD may be configured as follows" in

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paragraph [0071] of Chung. Accordingly, it is submitted that Chung does <u>not</u> disclose "<u>ENAV</u> <u>buffer configuration</u> information for use by the apparatus in <u>allocating</u> at least a portion of the <u>ENAV buffer</u> in which the ENAV file is to be loaded to be an <u>updateable markup area</u>" as recited in claim 1.

Paragraph [0039] of Chung relied on by the Examiner refers to a preload file that lists the names of the files to be preloaded and information about the amount of memory necessary for storing the files to be preloaded. This preload file is the file STARTUP.PLD in FIG. 4A of Chung. An example of STARTUP.PLD appears on page 10 of Chung, and lists two files a.htm and a.png to be preloaded in the second memory 3 shown in FIG. 3 of Chung, and contains an element <preload cachesize="128KB"> that indicates the amount of memory necessary for storing the files a.htm and a.png to be preloaded. However, Chung does <u>not</u> disclose <u>allocating</u> a portion of the second memory 3 based on the preload cachesize of 128KB. Instead, as shown in the step 1003 in FIG. 10 of Chung, if the remaining capacity of the cache memory (the second memory 3) is less than the preload cachesize of 128KB, Chung's apparatus merely generates an error signal and ends the preloading in the step 1005 in FIG. 10 of Chung as described in paragraph [0066] of Chung. This causes Chung's apparatus to switch from the interactive mode to the video mode as can be seen from the function err_preload in Examples 1 and 2 of the file STARTUP.HTM on pages 8 and 9 of Chung. Thus, Chung assumes a <u>fixed memory size</u> for preloading, and does <u>not</u> perform <u>allocation</u> of memory for preloading.

Furthermore, is it <u>not</u> seen where Chung discloses anything <u>whatsoever</u> that can reasonably be considered to be "an updateable markup area" as recited in claim 1. Nor has the Examiner explained which element of Chung he considers to be "an updateable markup area."

For at least the foregoing reasons, it is submitted that the preload list file referred to in paragraph [0039] of Chung relied on by the Examiner does <u>not</u> include "<u>ENAV buffer</u> <u>configuration</u> information for use by the apparatus in <u>allocating</u> at least a portion of the <u>ENAV</u> <u>buffer</u> in which the ENAV file is to be loaded to be an <u>updateable markup area</u>" as recited in claim 1.

Furthermore, it is submitted that Chung does <u>not</u> disclose the feature "wherein the updateable markup area of the ENAV buffer <u>is an area to store at least one ENAV file that</u> <u>requires updating</u>" now recited in claim 1

Claim 13

It is submitted that Chung does not disclose "[a]n information storage medium for use with a recording and/or reproducing apparatus in an interactive mode and which includes a buffer, the medium comprising: . . . allocation information used by the apparatus to allocate a portion of the buffer to be reserved for an interactive type of the interactive file prior to the interactive file being loaded" as recited in independent claim 13.

The Examiner considers the "allocation information" recited in claim 13 to be disclosed in paragraphs [0038] and [0039] of Chung, which read as follows:

> **[0038]** The DVD 300 according to the embodiment includes not only the AV data containing audio data or video data but also the markup language document data containing the preload information and the discard information. Furthermore, a preload list file and a discard list file may be recorded in the DVD 300.

> **[0039]** The preload list file lists the names of the files to be preloaded and information about the amount size of memory necessary for storing each file to be preloaded. The files to be preloaded is the markup language document which may need to be reproduced in synchronization with the relevant AV data and is recorded in the DVD 300 according to the embodiment. The files to be preloaded can be stored in the Internet server that can be accessed over the Internet.

However, the Examiner did not explain why he considers these paragraphs to disclose the "allocation information" recited in claim 14, which makes it impossible for the applicants to respond to the rejection without speculating about how the Examiner is interpreting Chung. Accordingly, should the Examiner repeat the rejection of claim 13 in the next Office Action, it is respectfully requested that the Examiner explain why he considers these paragraphs to disclose the "allocation information" or the "interactive type of the interactive file" recited in claim 1. Furthermore, should the Examiner provide such an explanation in the next Office Action, it is submitted that this will constitute a new ground of rejection to which the applicants will be entitled to respond by presenting arguments and/or amending the claim 13, such that the Examiner will not be able to make the next Office Action final.

The feature "allocation information used by the apparatus to allocate a portion of the buffer to be reserved for an interactive type of the interactive file prior to the interactive file being loaded" recited in claim 13 is similar to the feature "ENAV buffer configuration information for use

by the apparatus in allocating at least a portion of the ENAV buffer in which the ENAV file is to be loaded to be an updateable markup area" recited in claim 1. Accordingly, it is submitted that Chung does not disclose this feature of claim 13 for at least the same reasons discussed above that Chung does not disclose the similar feature of claim 1.

Furthermore, it is not seen where Chung discloses anything whatsoever that may reasonably be considered to be "an interactive type of the interactive file" as recited in claim 13. Nor has the Examiner explained which file in Chung he considers to be "an interactive type of the interactive file." Assuming *arguendo* that FIG. 4A of Chung may be considered to show interactive files in the directory DVD_ENAV, it is not seen where Chung characterizes any of these interactive files as being an interactive type of interactive file as recited in claim 13, or any other one ones of these interactive files as not being an interactive type of interactive file.

For at least the foregoing reasons, it is submitted that Chung does not disclose the feature "allocation information used by the apparatus to allocate a portion of the buffer to be reserved for an interactive type of the interactive file prior to the interactive file being loaded" recited in claim 13, an example of which is shown in FIGS. 8, 14, and 17.

Claim 14

It is submitted that Chung does not disclose "identification information which is detected by the apparatus to determine the interactive file to be read and which is used by the apparatus to distinguish between the updateable type of the interactive file which is to be buffered in the allocated portion and another type of the interactive file to be buffered in another area of the buffer" as recited in dependent claim 14.

The Examiner considers this feature of claim 14 to be disclosed in paragraphs [0038]- [0043] of Chung. Although these paragraphs of Chung disclose different types of files, such as a markup language document, a graphic image file, an audio file, and a font file, it is not seen where Chung characterizes any of these types of files as being an updateable type of an interactive file which is to be buffered in an allocated portion of the second memory 3 in FIG. 3 of Chung, or any other ones of these files as being another type of an interactive file to be buffered in another area of the second memory 3. Furthermore, it is not seen where Chung discloses identification information which is detected by Chung's apparatus to determine an interactive file

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to be read <u>and which is used by Chung's apparatus to distinguish between</u> an <u>updateable type</u> of an interactive file which is to be buffered in an allocated portion of Chung's second memory 3 and <u>another type</u> of an interactive file to be buffered in another area of Chung's second memory 3.

<u>The International Searching Authority Has Determined that Claims Corresponding to Claims 1-25 of the Present Application Are Patentable Over a Reference That Is a U.S. Counterpart of Chung</u>

In addition to the above arguments, it is noted that the Written Opinion of the International Searching Authority mailed on July 13, 2004, in International Application No. PCT/KR2004/000733, which was submitted with the Information Disclosure Statement of September 30, 2004, as discussed above indicates, that the International Searching Authority has determined that claims 1-104 of the international application are <u>patentable</u> over U.S. Patent Application Publication No. 2003/0049017, which is a U.S. counterpart of Chung relied on by the Examiner. Attached hereto is a copy of WO 2004/088662, which is a publication of the international application, from which it can be seen that claims 80-104 of the international application appear to correspond to claims 1-25 of the present application. WO 2004/088662 is listed on the List of References Cited by Applicant attached hereto.

It is noted that U.S. Patent Application Publication No. 2003/0049017 is a publication of U.S. Patent Application No. 10/170,419 cited in paragraph [0029] of the present application, and was cited in the Information Disclosure Statements of March 30, 2004, and September 30, 2004, filed in the present application.

Since the International Searching Authority of WIPO has determined that claims 80-104 of the international application are <u>patentable</u> over U.S. Patent Application Publication No. 2003/0049017, which is a U.S. counterpart of Chung, it is submitted that corresponding claims 1-25 of the present application are <u>patentable</u> over both U.S. Patent Application Publication No. 2003/0049017 and Chung.

Conclusion—Claim Rejections Under 35 USC 102

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 1-25 under 35 USC 102(b) as being anticipated by Chung be <u>withdrawn</u>.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.
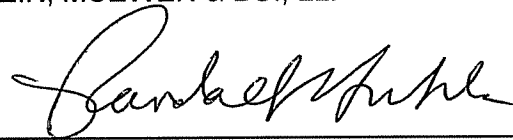
If there are any additional fees associated with filing of this paper, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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Attachments